

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

In the Matter of)	
)	
Amendment of Parts 2 and 97 of the)	
Commission's Rules to Create a Low)	ET Docket No. 02-98
Frequency allocation for the Amateur)	RM-9404
Radio Service)	
)	
Amendment of Parts 2 and 97 of the)	
Commission's Rules Regarding an)	RM-10209
Allocation of a Ban near 5 MHz for the)	
Amateur Radio Service)	
)	
Amendment of Parts 2 and 97 of the)	
Commission's Rules Concerning the)	RM-9949
Use of the 2400-2402 MHz Band by the)	
Amateur and Amateur-Satellite Services)	

COMMENTS OF ONCOR ELECTRIC ENERGY DELIVERY COMPANY

ONCOR Electric Energy Delivery Company hereby submits its Comments on the *Notice of Proposed Rulemaking* in the above-captioned proceeding.¹

I. INTRODUCTION

ONCOR Electric Energy Delivery Company is an investor-owned utility that provides electricity to approximately 2.7 million customers in the state of Texas. It relies on PLC systems to ensure the safe and reliable delivery of electric service to these customers. These systems offer a cost-effective and

¹ Amendment of Parts 2 and 97 of the Commission's Rules to Create a Low Frequency allocation for the Amateur Radio Service, *Notice of Proposed Rulemaking*, ET Docket No. 02-98, FCC 02-136 (released May 15, 2002) (the "Notice", "NPRM").

instantaneous connection to trip electric relays in order to prevent widespread outages when an overload occurs on the grid. These systems have been used for decades, and have helped to keep electric service affordable and reliable in urban and rural areas.

Power line carrier systems use the power transmission lines as the propagation medium for the radio frequency signals with the PLC transmitters and receivers being coupled to the power transmission lines by means of matching networks. PLC systems operate between 10 and 490 kHz using low power transmitters. Both Government and non-Government PLC systems operate in this band. Non-government PLC systems operate on an unlicensed basis as restricted radiation devices under Part 15 of the FCC Rules.

Government PLC systems operate under Chapter 7 of the NTIA Manual of Regulations and Procedures for Federal Radio Frequency Management.

II. A Secondary Allocation for Amateur Operations in the 135.7-137.8 kHz Band Would Threaten the Operation of PLC Systems.

ONCOR Electric Energy Delivery Company opposes the Commission's proposal to allocate the 135.7-137.8 kHz band for amateur operations on a secondary basis. This allocation would increase the likelihood that amateur operations would cause interference to PLC systems that operate in this band. Amateur operations are unpredictable and uncoordinated; and interference from such operations would be difficult to avoid or trace under the best of circumstances. Moreover, if the FCC allocates the band to amateur operators on a secondary status, amateurs would not be required to avoid creating interference to PLC systems that are only authorized to operate on an unlicensed

basis. Finally, the FCC may have understated the potential for interference, because PLC systems operate on 4 kHz wide channels and amateurs could interfere with PLC systems as low as 131.7 kHz or as high as 141.8 kHz.²

Interference to PLC operations could cause the system to trip a relay or it could prevent a relay from tripping when it should. PLC systems use a frequency blocking scheme to signal the relays to trip, and interference from amateur operations could be interpreted by the PLC system as a frequency block. This would cause instability on the transmission lines, which could lead to widespread outages. Although ONCOR Electric Energy Delivery Company has backup systems in place, it could not afford the risk that the primary PLC protection systems could be vulnerable to interference from amateur operations. ONCOR Electric Energy Delivery Company would be left with the option of retuning its PLC systems if it could, or to switch to an entirely different protective relaying system. Either option would require substantial time and resources from the utility and would increase operational costs going forward.

In the *NPRM*, the Commission has attempted to address the interference issue by proposing technical rules that are intended to minimize any impact from these amateur station operations on unlicensed equipment use. The Commission has proposed that EIRP be limited to 1 W ; that transmission bandwidth be limited to 100 Hz; and that amateur output power be limited to 100 W PEP. However, the FCC has refused to adopt antenna size or design limits,

² See *NPRM* at ¶23, fn 58 (stating that only 430 PLC systems are in the 135.7-137.8 kHz band that could receive interference from a amateur operations).

because it believes that power limits alone will adequately address the potential for interference to PLC operations.

These technical rules do not adequately address the potential for interference to PLC systems. Power limits are meaningless if they are not coupled with antenna size or design limits that protect PLC systems from harmful interference. Technical rules must ensure that amateurs do not operate in such proximity as to cause harmful interference to PLC systems. Therefore, if the FCC does allocate the band to amateur operations, it should require amateurs to follow procedures and standards that effectively mitigate the potential for interference to PLC systems.

III. The Commission Should Not Provide Public Access to the PLC Database

The Commission has suggested that spectrum in both the 135.7-137.8 kHz and 160-190 kHz bands could be used more efficiently if potential operators knew where other users of the spectrum were located and could avoid them. It has recognized that UTC maintains a database of PLC locations in order to notify primary Federal Government users of PLC operations, and has invited comment on whether amateur operators should have access to this database and whether it would provide sufficient information for them to avoid causing interference to PLC systems.

Amateur operators should not be given access to the PLC database, because it is not at all clear that amateurs could or would make effective use of the data, nor would the possible benefits of disclosure outweigh the risk to the

security of the data and the integrity of the systems – government as well as non government – that are coordinated using the data. Apart from following the “listen before transmit” protocol, amateur operators do not have experience coordinating with other users. Even if they learned from the database where the PLC transmitters were located, they would not know where the electric transmission lines that carry the signal to the receivers were located. Moreover, the data itself is sensitive information that should not be disclosed to the general public. Therefore, unrestricted access to the PLC database by amateurs would not be in the public interest.

Instead, if the FCC creates a secondary allocation for amateur operations, it should request that amateurs cooperate with utilities to avoid causing interference with PLC systems by submitting data to UTC about the amateur operations. UTC could then notify utilities about amateur operations that may impact their PLC systems. Utilities and amateur operators could then cooperate to avoid causing interference to each other in accordance with Section 2.106, U.S. footnote 294.³ That way the potential for interference could be mitigated somewhat, while the security of the PLC database would be preserved.

IV. CONCLUSION

ONCOR Electric Energy Delivery Company urges the Commission to protect the reliability of PLC systems, and to decline the proposal to adopt a

³ See 47 C.F.R. § 2.106, fn US294 (notifying users about the existence of PLC systems in the 9-490 kHz band and urging them to minimize potential interference to the degree practicable.) See also Amendment of Parts, 2, 15, and 90 of the Commission’s Rules to Provide Recognition for Power Line Carrier Operations of Electric Utilities in the bands 10-490 kHz. Gen. Docket No. 82-9, *Report and Order*, 48 FR 5922 (1983).

secondary allocation for amateur operations in the 135.7-137.8 kHz band. However, if the Commission does allocate this band to amateur operators, it must adopt technical rules that include limits that effectively protect PLC systems, and it should encourage amateur operators to cooperate with utilities through UTC to avoid causing harmful interference to each other.

Respectfully submitted,

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